

WEST Search History

DATE: Thursday, October 24, 2002

<u>Set Name</u> side by side	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u> result set
<i>DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>			
L13	15 same l6	1	L13
L12	l10 and l11	134	L12
L11	angle	1647618	L11
L10	15 and l8	538	L10
L9	17 and l8	7	L9
L8	\$0001\$	25553807	L8
L7	15 and l6	7	L7
L6	direction near angle	47016	L6
L5	l3 adj l4	542	L5
L4	substrate	1469478	L4
L3	l1 or l2	11840	L3
L2	gan	9826	L2
L1	gallium adj nitride	4133	L1

END OF SEARCH HISTORY

L6 ANSWER 7 OF 30 INSPEC COPYRIGHT 2002 IEE
 AN 2002:7137129 INSPEC DN A2002-03-8115H-056; B2002-02-0520F-023
 TI Homo-epitaxial growth on misoriented **GaN** substrates by MOCVD.
 AU Zauner, A.R.A.; Schermer, J.J.; van Enckevort, W.J.P.; Kirilyuk, V. (Res.
 Inst. for Mater., Nijmegen Univ., Netherlands); Weyher, J.L.; Grzegory,
 I.; Hageman, P.R.; Larsen, P.K.
 SO **GaN and Related Alloys - 1999. Symposium (Materials Research Society
 Symposium Proceedings Vol.595)**
 Editor(s): Myers, T.H.; Feenstra, R.M.; Shur, M.S.; Amano, H.
 Warrendale, PA, USA: Mater. Res. Soc, 2000. p.W6.3.1-6 of xxvii+10002 pp.
 12 refs.
 Conference: Boston, MA, USA, 28 Nov-3 Dec 1999
 ISBN: 1-55899-503-X
 DT Conference Article
 TC Experimental
 CY United States
 LA English
 AB The N-side of **GaN** single crystals with off-angle
 orientations of 0 degrees , 2 degrees and 4 degrees towards the [1010]
direction was used as a substrate for homoepitaxial MOCVD growth.
 The highest misorientation resulted in a reduction of the density of grown
 hillocks by almost two orders of magnitude as compared with homoepitaxial
 films grown on the exact (0001) surface. The features still found on the 4
 degrees misoriented sample after growth can be explained by a model
 involving the interaction of steps, introduced by the misorientation and
 the hexagonal hillocks during the growth process.
 CC A8115H Chemical vapour deposition; A6855 Thin film growth, structure, and
 epitaxy; A6150J Crystal morphology and orientation; A6820 Solid surface
 structure; B0520F Chemical vapour deposition; B2520D II-VI and III-V
 semiconductors
 CT CRYSTAL ORIENTATION; GALLIUM COMPOUNDS; III-V SEMICONDUCTORS; MOCVD;
 SEMICONDUCTOR EPITAXIAL LAYERS; SEMICONDUCTOR GROWTH; SUBSTRATES; SURFACE
 TOPOGRAPHY; VAPOUR PHASE EPITAXIAL GROWTH; WIDE BAND GAP SEMICONDUCTORS
 ST **misoriented GaN substrates**; homoepitaxial growth; MOCVD; density
 reduction; hexagonal hillocks; crystal orientation; (0001) surface; step
 interactions; **GaN**
 CHI GaN sur, Ga sur, N sur, GaN bin, Ga bin, N bin
 ET Ga*N; GaN; Ga cp; cp; N cp; N; V; Ga

 L6 ANSWER 8 OF 30 INSPEC COPYRIGHT 2002 IEE
 AN 2001:7071226 INSPEC DN A2001-23-6180M-001
 TI Channeling contrast microscopy on lateral epitaxial over-grown **GaN**
 .
 AU Teo, E.J.; Osipowicz, T.; Bettiol, A.A.; Watt, F. (Dept. of Phys., Nat.
 Univ. of Singapore, Singapore); Hao, M.S.; Chua, S.J.
 SO Nuclear Instruments & Methods in Physics Research, Section B (Beam
 Interactions with Materials and Atoms) (July 2001) vol.181, p.231-7. 11
 refs.
 Doc. No.: S0168-583X(01)00460-8
 Published by: Elsevier
 Price: CCCC 0168-583X/2001/\$20.00
 CODEN: NIMBEU ISSN: 0168-583X
 SICI: 0168-583X(200107)181L:231:CCML;1-D
 Conference: 7th International Conference on Nuclear Microprobe Technology
 and Applications. Bordeaux, France, 10-15 Sept 2000
 DT Conference Article; Journal

L6 ANSWER 5 OF 30 INSPEC COPYRIGHT 2002 IEE
 AN 2002:7324973 INSPEC DN A2002-17-8115H-005; B2002-08-0520F-032
 TI Homo-epitaxial growth on the N-face of **GaN** single crystals: the influence of the misorientation on the surface morphology.
 AU Zauner, A.R.A.; Aret, E.; van Enckevort, W.J.P.; Weyher, J.L. (Res. Inst. for Mater., Nijmegen Univ., Netherlands); Porowski, S.; Schermer, J.J.
 SO Journal of Crystal Growth (April 2002) vol.240, no.1-2, p.14-21. 18 refs. Doc. No.: S0022-0248(01)02389-2
 Published by: Elsevier
 Price: CCCC 0022-0248/02/\$22.00
 CODEN: JCRGAE ISSN: 0022-0248
 SIC1: 0022-0248(200204)240:1/2L.14:HEGF;1-7
 DT Journal
 TC Experimental
 CY Netherlands
 LA English
 AB **GaN** single crystals are used as substrates for homo-epitaxial growth by MOCVD. Prior to growth, the N-face, or (0001) plane, of the substrate crystals is polished to obtain off-angle orientations of 0, 2, and 4 degrees towards the [1120] **direction**. The hillock density of the homo-epitaxial films grown on the misoriented substrates is decreased as compared with the layers grown on the exact N-face. However, in addition to the hillocks, triangular-shaped pits are formed on the films grown on the misoriented substrates. The formation of the triangular-shaped pits is described by the blocking of the anisotropic step-flow growth.
 CC A8115H Chemical vapour deposition; A6855 Thin film growth, structure, and epitaxy; A6820 Solid surface structure; A8160C Surface treatment and degradation in semiconductor technology; B0520F Chemical vapour deposition; B2520D II-VI and III-V semiconductors; B2550E Surface treatment (semiconductor technology)
 CT CRYSTAL ORIENTATION; GALLIUM COMPOUNDS; III-V SEMICONDUCTORS; MOCVD; POLISHING; SEMICONDUCTOR EPITAXIAL LAYERS; SEMICONDUCTOR GROWTH; SURFACE STRUCTURE; SURFACE TOPOGRAPHY; VAPOUR PHASE EPITAXIAL GROWTH; WIDE BAND GAP SEMICONDUCTORS
 ST N-face; **GaN single crystals**; misorientation; surface morphology; substrates; homo-epitaxial growth; MOCVD; **off-angle orientations**; hillock density; homo-epitaxial films; misoriented substrates; triangular-shaped pits; blocking; anisotropic step-flow growth; polished surface; **GaN**
 CHI GaN sur, Ga sur, N sur, GaN bin, Ga bin, N bin
 ET N; Ga*N; GaN; Ga cp; cp; N cp; V; Ga

L6 ANSWER 15 OF 30 INSPEC COPYRIGHT 2002 FIZ KARLSRUHE
 AN 2000:6619413 INSPEC DN A2000-14-8115H-048; B2000-07-0520F-063
 TI Homo-epitaxial **GaN** growth on exact and misoriented single
 crystals: suppression of hillock formation.
 AU Zauner, A.R.A.; Weyher, J.L.; Plomp, M.; Kirilyuk, V. (Res. Inst. for
 Mater., Nijmegen Univ., Netherlands); Grzegory, I.; van Enckevort, W.J.P.;
 Schermer, J.J.; Hageman, P.R.; Larsen, P.K.
 SO Journal of Crystal Growth (March 2000) vol.210, no.4, p.435-43. 20 refs.
 Doc. No.: S0022-0248(99)00886-6
 Published by: Elsevier
 CODEN: JCRGAE ISSN: 0022-0248
 SICI: 0022-0248(200003)210:4L:435:HEGE;1-X
 DT Journal
 TC Experimental
 CY Netherlands
 LA English
 AB **GaN** single crystals were used as substrates for MOCVD growth.
 The (0001) plane of the substrate crystals was polished to obtain off-
angle orientations of 0, 2, and 4 degrees towards the [1010]
direction. The highest misorientation resulted in a reduction of
 the hexagonal hillock density by nearly two orders of magnitude as
 compared with homo-epitaxial films grown on the exact (0001) surface. The
 features that are still found on the 4 degrees off-**angle** sample
 after growth can be explained by a model involving the interaction of
 steps, introduced by the misorientation, and the hexagonal hillocks during
 the growth process. Following from this explanation it could be concluded
 that surface diffusion is found to be not important during growth on the
 N-side. The material quality of the N-side was examined by
 photoluminescence (PL) measurements. The PL spectrum measured at 5 K shows
 dominant donor bound excitons with a FWHM of 1.4 meV as well as free
 excitonic transitions.
 CC A8115H Chemical vapour deposition; A6855 Thin film growth, structure, and
 epitaxy; A6820 Solid surface structure; A7865K Optical properties of III-V
 and II-VI semiconductors (thin films/low-dimensional structures); A7855E
 Photoluminescence in II-VI and III-V semiconductors; A7135 Excitons and
 related phenomena; B0520F Chemical vapour deposition; B2520D II-VI and
 III-V semiconductors
 CT ATOMIC FORCE MICROSCOPY; EXCITONS; GALLIUM COMPOUNDS; III-V
 SEMICONDUCTORS; MOCVD; MOCVD COATINGS; PHOTOLUMINESCENCE; SEMICONDUCTOR
 EPITAXIAL LAYERS; SEMICONDUCTOR GROWTH; SURFACE STRUCTURE; VAPOUR PHASE
 EPITAXIAL GROWTH; X-RAY DIFFRACTION
 ST homoepitaxial growth; MOCVD growth; metalorganic chemical vapour
 deposition growth; substrate misorientation; epitaxial films;
 photoluminescence; free excitonic transitions; semiconductor growth; III-V
 semiconductors; surface morphology; AFM; atomic force microscopy; XRD;
 X-ray diffraction; 1040 C; 50 mbar; 5 K; **GaN**
 CHI **GaN** bin, Ga bin, N bin
 PHP temperature 1.31E+03 K; pressure 5.0E+03 Pa; temperature 5.0E+00 K
 ET Ga*N; **GaN**; Ga cp; cp; N cp; N; V; Ga